CLAIMS

1. Layout, the output signal of which is intended to form a time reference, including:

- a first oscillator (OSC1) including a silicon resonator of frequency F_1,

- a second oscillator (OSC2) including a silicon resonator, the frequency F_2 of which is different from that of the first oscillator (OSC1),

- means for generating, by difference between the signal (S1) output by the first oscillator (OSC1) and the signal (S2) output by the second oscillator (OSC2), a first temperature-stable time reference (REF),

- means (CTRL) for determining the frequency drift due to the temperature of the signal (S1) output by the first oscillator (OSC1) by comparing the signal (S1) output by the first oscillator (OSC1) with the first temperature-stable time reference (REF),

- programmable correction means (DIV1) which, according to the value of said drift, divide the frequency of the signal (S1) output by the first oscillator (OSC1) and generate said output signal forming a second temperature-stable time reference (RTC).

2. Layout according to Claim 1, characterized in that it includes:

- means (10, 11, 12, 13) for counting, during a counting phase and over a predetermined number of cycles (M) of the first time reference (REF), the number of pulses (N1) generated by the first oscillator (OSC1), and

- means (33) for determining said frequency drift and controlling said programmable correction means, according to said number of pulses (N1) counted and said number of cycles (M) of the first time reference (REF) during which counting was enabled.

3. Layout according to Claim 2, characterized in that it includes means of selecting standby mode (MV) for intermittently setting the second oscillator (OSC2) to standby mode, and in that said counting phase runs during a phase of activity of the second oscillator (OSC2).

4. Layout according to Claim 3, characterized in that said means of selecting standby mode (MV) include means for varying the time interval between two successive reactivations, according to the accuracy required for the second time reference (RTC) and/or to the number of pulses (N_1) counted for the first oscillator (OSC1) in at least one of the preceding counting phases.

5. Layout according to one of Claims 1 to 4, characterized in that it includes means for generating temperature information from the number of pulses (N1) generated by the first oscillator (OSC1) in the counting phase.

6. Layout according to one of Claims 1 to 5, characterized in that it includes means for storing calibration information concerning the first temperature-stable time reference (REF).

7. Layout according to one of Claims 1 to 6, characterized in that the correction means include a programmable frequency divider having a range of division factors with which to compensate the frequency drifts of the first oscillator (OSC1) due to the temperature and/or the absolute accuracy of the first oscillator (OSC1).

8. Layout according to one of Claims 1 to 7, characterized in that the second oscillator (OSC2) includes a silicon resonator, the first order thermal coefficient of which is in a ratio $\lambda.F_1/F_2$ with the first order thermal coefficient of the first oscillator (OSC1), and a frequency divider dividing the frequency F_2 of the signal output by this resonator by a factor λ and generating the output signal of the second oscillator (OSC2).

9. Time base including a layout according to one of Claims 1 to 8.

10. Thermometer including a layout according to one of Claims 1 to 8.

11. Timepiece including a layout according to one of Claims 1 to 8.

12. Method of generating a signal intended to form a time reference including the following steps:

- generation of a first frequency by a first oscillator (OSC1) including a silicon resonator,

- generation of a second frequency, different from the first frequency, by a second oscillator (OSC2) including a silicon resonator,

- generation of a first temperature-stable time reference (REF) by difference between the signal (S1) output by the first oscillator (OSC1) and the signal (S2) output by the second oscillator (OSC2),

- determination, by comparison of the signal (S1) output by the first oscillator (OSC1) with the first time reference (REF), of the frequency drift due to the temperature of the signal (S1) output by the first oscillator (OSC1),

- correction, according to the value of said drift, of the frequency of the signal (S1) output by the first oscillator (OSC1) to generate said output signal forming a second time reference (RTC).